

#### ABSTRACT OF THE DISCLOSURE

A switching regulator includes a compensation circuit for applying a scaling factor to the loop gain of the feedback control loop of the regulator. In operation, the loop gain of the feedback control loop has a dependency on the input and output voltages of the switching regulator. The compensation circuit applies a function as the scaling factor where the function is a reciprocal function of the loop gain dependency on the input voltage and output voltage. In one embodiment, the loop gain has a dependency on the ratio  $V_{IN}/V_{OUT}$  and a scaling factor having a value indicative of the ratio  $V_{OUT}/V_{IN}$  is applied by the compensation circuit. In one embodiment, the compensation circuit is coupled in series with the output circuit of an error amplifier in the feedback control loop of the regulator. In another embodiment, the compensation circuit is subsumed within the circuitry of the error amplifier.